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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,261	03/31/2006	Masanori Masuda	DK-US065021	3812

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EXAMINER

DUFF, DOUGLAS J

ART UNIT	PAPER NUMBER
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3748

MAIL DATE	DELIVERY MODE
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08/21/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/574,261

Applicant(s)

MASUDA, MASANORI

Examiner

Douglas J. Duff

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 3/31/06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Rotary compressor with swing bush coupling and blade.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-6 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Kitaura et al. (US 6925832). Regarding claim 1, Kitaura et al. discloses a rotary compressor comprising a compression mechanism (15) including a cylinder (outer wrap of 24) having a cylinder chamber (below 24, above 31), a piston disposed in the cylinder chamber to be eccentric with respect to the cylinder (outer wrap 24), and a blade (inner wrap 26b) arranged in the cylinder chamber and dividing the cylinder chamber into a high pressure chamber (inside of wraps) and a low pressure chamber (outside of wraps), the cylinder and the piston eccentrically rotating relative to each other; a motor (16) configured to drive the compression mechanism; and a casing (12, 13) configured to house the compression mechanism and the motor, the casing forming a low pressure space (29) communicating with a suction side of the compression

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mechanism and a high pressure space (18) communicating with a discharge side of the compression mechanism and the casing having a suction pipe (19) connected to a low pressure space side of the casing and a discharge pipe (20) connected to a high pressure space side thereof.

4. Regarding claims 2-6 and 10, Kitaura et al. discloses the rotary compressor of claim 1 including the casing forming two spaces (18, 29) and the compression mechanism interposed therebetween, one of the two spaces is the high pressure space (18) and the other is low pressure (29), the motor (16) is disposed in the high pressure space (18), the high pressure space is formed below the compression mechanism (15) and an oil sump (13) is in the high pressure space (Fig. 1), an outer peripheral face (top 15) of the compression mechanism is surrounded by the low pressure space (29) and the cylinder chamber has an annular or circular shape cross section (24, scroll) when viewed at a right angle in an axial direction, and the piston (26) is formed of an annular or circular piston arranged in the cylinder chamber (below 24, above 31) and sectioning the cylinder chamber into an outer cylindrical chamber (top 31) and an inner cylinder chamber (inside of 24).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitaura et al. in view of Rydberg et al. (US 3125031). Regarding claim 7, Kitaura et al. discloses the compressor of claim 6, but fails to disclose the blade formed continuously with the cylinder or a coupling member including a first sliding face corresponding to the piston and a second sliding face corresponding to the blade.

7. Rydberg et al. teaches a rotary compressor with a blade (240) formed continuously with the cylinder (154), the compressor includes a coupling member (260, 268) through which annular piston (196) and blade (240) are movably coupled to each other, and the coupling member includes a first sliding face (outer face of 268) corresponding to the piston and a second sliding face (inside 260) corresponding to the blade. It would have been obvious for a person having ordinary skill in the art at the time the invention was made to utilize the blade formed continuously with the cylinder and a coupling member to movably couple the piston and blade in order to provide a fluid pump having an annular working chamber with a continuously revolving rotary piston therein together with a partition or blade across the chamber having operative engagement with the piston, providing a pivotal connection between the blade and the piston (col. 1, lines 67-72 and col. 2, lines 1 and 2).

8. Regarding claims 8 and 9, the modified Kitaura et al. device discloses the invention as described in claim 7 above and further discloses the piston being of C-shape to form a gap (Fig. 23), the blade (240) formed to extend from an inner peripheral wall surface of the annular cylinder chamber (182) to an outer peripheral wall thereof (154) while being inserted through the gap of the piston (196), the coupling is a swing

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bushing having an arc-shaped outer peripheral face (260, 268) slidably supported in the gap of the piston, a blade groove being formed therein for supporting the blade, (Fig. 23) to allow the blade to move back and forth, a drive shaft (176) to drive the mechanism including an eccentric portion (180) coupled to the cylinder or the piston (196) and parts of the drive shaft located at both longitudinal sides of the eccentric portion are supported through a plurality of bearing portions (166, 170) in the casing.

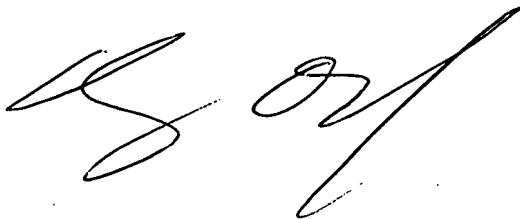
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas J. Duff whose telephone number is (571) 272-3459. The examiner can normally be reached on M-F 7 AM - 5 PM.

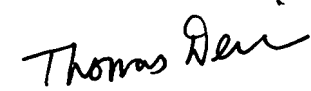
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Douglas J. Duff



8/16/07


THOMAS DENION
SUPERVISORY PATENT EXAMINER
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